

## CLAIMS:

1. An X-ray apparatus having
  - an X-ray source (4),
  - an X-ray detector (5),
  - a C-arm assembly (1) on which the X-ray source (4) and the X-ray detector (5)
- 5 are arranged opposite one another, the C-arm assembly (1) being arranged to be rotatable about a propeller axis (9) and an axis of rotation (11), which axes extend perpendicularly to one another,
  - marker arrangements (14, 15) mounted on the X-ray source (4) and the X-ray detector (5) respectively, and
- 10 - a camera arrangement (12) for detecting the marker arrangements (14, 15) to enable the positions of the X-ray source (4) and the X-ray detector (5) to be determined, the camera arrangement (12) being arranged on the C-arm assembly (1).
2. An X-ray apparatus as claimed in claim 1, characterized in that the camera
- 15 arrangement (12) is arranged on a part (3) of the C-arm assembly (1) whose position does not change if the C-arm assembly (1) is rotated about the axis of rotation (11).
3. An X-ray apparatus as claimed in claim 2, characterized in that the camera
- 20 arrangement (12) is arranged on the axis of revolution of the C-arm assembly (1) that extends along the propeller axis (9).
4. An X-ray apparatus as claimed in claim 2 or 3, characterized in that the
- camera arrangement (12) is so arranged that, when the C-arm assembly (1) rotates about the propeller axis (9), it too performs the rotation.
- 25 5. An X-ray apparatus as claimed in claim 1, characterized in that the camera arrangement (12) is arranged on a part (2) of the C-arm assembly (1) whose position changes if the C-arm assembly (1) is rotated about the axis of rotation (11).

6. An X-ray apparatus as claimed in claim 5, characterized in that the camera arrangement (12) is arranged on the C-arm (2), which C-arm (2) can be traversed about the axis of rotation (11) when the C-arm assembly (1) is rotated and carries the X-ray source (4) and the X-ray detector (5), the camera arrangement (12) being in particular arranged centrally  
5 on the C-arm (2) between the X-ray source (4) and the X-ray detector (5).

7. An X-ray apparatus as claimed in claim 5, characterized in that a further marker arrangement (16) is mounted on the camera arrangement (12) and in that the X-ray apparatus also has a fixed camera arrangement (17) for detecting this marker arrangement  
10 (16), which latter is mounted on the camera arrangement (12) arranged on the C-arm assembly (1) to allow the position of this camera arrangement (12) to be determined.

8. An X-ray apparatus as claimed in claim 1, characterized in that the camera arrangement (12) mounted on the C-arm assembly (1) has two cameras (121, 122), the first  
15 camera (121) detecting the marker arrangement (14) mounted on the X-ray source (4) and the second camera (122) detecting the marker arrangement (15) mounted on the X-ray detector (5).

9. An X-ray apparatus as claimed in claim 1, characterized in that a computing  
20 unit is provided for the correction by calculation of the image data obtained, by reference to the data obtained relating to the positions of the X-ray source (4) and the X-ray detector (5).